

ELECTRONIC PACKAGE WITH HIGH DENSITY INTERCONNECT LAYER

Abstract of the Disclosure

5 An electronic package, and method of making the electronic package, is provided. The package includes a semiconductor chip and an multi-layered interconnect structure having a high density interconnect layer such as an allylated surface layer. The semiconductor chip includes a plurality of contact members on one of its surfaces that are connected to the multi-layered interconnect structure by a plurality of solder connections. The multi-layered interconnect structure is adapted for electrically interconnecting the semiconductor chip to a circuitized substrate (eg., circuit board) with another plurality of solder connections and includes a thermally conductive layer being comprised of a material having a selected thickness and coefficient of thermal expansion to substantially prevent failure of the solder connections between said first plurality of electrically conductive members and the semiconductor chip. The electronic package further includes a dielectric material having an effective modulus to assure sufficient compliancy of the multi-layered interconnect structure during operation. The allylated surface layer has the property of being able to withstand thermal stresses that arise during thermal cycling operation of the electronic package.

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